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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,149	05/11/2001	Steven Weil	MSI-747US	6784

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EXAMINER
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RIES, LAURIE ANNE

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/854,149

Applicant(s)

WEIL ET AL.

Examiner

Laurie Ries

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-19, 21-26, 28-43 and 45-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-19, 21-26, 28-43 and 45-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to communications: Request for Continued Examination, filed 30 June 2006, to the original application, filed 11 May 2001.
2. The rejection of claims 1-4, 6-9, 11-19, 21-26, 28-32, 42-43, 45-52 under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in further view of Warnock (U.S. Patent 5,634,064) has been withdrawn as necessitated by amendment and newly found prior art.
3. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in view of Warnock (U.S. Patent 5,634,064) and Baum (U.S. Patent 6,188,779 B1) has been withdrawn as necessitated by amendment and newly found prior art.
4. The rejection of claims 33-37, and 39-41 under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in view of Warnock (U.S. Patent 5,634,064) and Atkinson (U.S. Patent 4,622,545) has been withdrawn as necessitated by amendment and newly found prior art.

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5. The rejection of claim 38 under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in view of Warnock (U.S. Patent and Atkinson (U.S. Patent 4,622,545) and Bereiter (U.S. Patent 5,909,217) has been withdrawn as necessitated by amendment and newly found prior art.

6. Claims 1-9, 11-19, 21-26, 28-43, and 45-52 are pending. Applicant has canceled claims 10, 20, 27, and 44. Claims 1, 9, 19, 26, 33, 42, 47, 51, and 52 are independent claims.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 1** recites the limitation "fixed document" in line 8. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further prosecution it is assumed line 8 should read "fixed digital document".

**Claims 2-8** are rejected for fully incorporating the deficiencies of the base claim(s) from which they depend.

**Claim 11** recites the limitation "the one or more pages" in line 3. There is insufficient antecedent basis for this limitation in the claim. For the purpose of further prosecution it is assumed line 3 should read "the multiple pages".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 6-9, 11-19, 21-25, 42-43, 45-48, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1).

**As per independent claims 1, 9, 19, 42, 47, and 51**, Smith discloses a method for facilitating enhanced readability of a fixed digital document, such as a PostScript document, said document having multiple pages, including obtaining the fixed digital document (See Smith, Column 5, lines 47-50).

Smith also discloses paginating the multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses identifying and locating lines of text within the multiple pages of the fixed digital document (See Smith, Figure 3).

Smith also discloses determining a virtual page boundary (See Smith, Figure 3, Logical Page Breaks)

Smith also discloses adjusting the virtual page boundary so that the boundary is not the same as a line of text (See Smith, Figure 4).

While Smith shows a virtual page boundary coinciding with a line of text (See Smith, Figure 3, logical page break 2), Smith does not disclose expressly that the virtual page boundary has the same boundaries as the identified line of text.

Kelley discloses a virtual page break boundary having the same boundary as a line of text (See Kelley, Figure 6, and Column 7, lines 13-32).

Smith and Kelley are analogous art because they are from the same field of endeavor of enhancing the viewing of electronic documents.

At the time of the invention it would have been obvious to one of ordinary skill in the art to include the virtual page boundary coinciding with a line of text of Kelley with the adjustment of a virtual page boundary of Smith. The motivation for doing so would have been to display only entire lines of text on a virtual page on the screen which makes reading the text much more user friendly (See Kelley, Abstract). Therefore, it would have been obvious to combine Kelley with Smith for the benefit of displaying only entire lines of text on a virtual page on the screen to make reading the text much more user friendly to obtain the invention as specified in claims 1, 9, 19, 42, 47, and 51.

**Dependent claims 7 and 8** are rejected on the same basis as claim 1.

**Dependent claims 17 and 18** are rejected on the same basis as claim 9.

**Dependent claim 48** is rejected on the same basis as claim 47.

**As per dependent claims 2 and 14**, Smith and Kelley disclose the limitations of claims 1 and 9 as described above. Smith also discloses displaying a virtual page of the multiple virtual pages and doing so without displaying overlap (See Smith Figure 4).

**As per dependent claims 3 and 15**, Smith and Kelley disclose the limitations of claims 1 and 9 as described above. Smith also discloses displaying virtual pages of the multiple virtual pages, where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages (See Smith, Column 4, lines 27-31).

**As per dependent claim 4**, Smith and Kelley disclose the limitations of claim 1 as described above. Smith also discloses displaying virtual pages of the multiple virtual pages, where a top synthetic virtual page margin is displayed so that the content of the virtual page starts at a common spatial position (See Smith, Column 3, lines 15-20).

**As per dependent claims 6, 16, 24, 43, and 50**, Smith and Kelley disclose the limitations of claims 1, 9, 19, 42, and 47 as described above. Smith also discloses that the paginating includes determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3, lines 13-26).

**As per dependent claim 11**, Smith and Kelley disclose the limitations of claim 9 as described above. Smith also discloses identifying and locating lines of text within the multiple pages of the digital document (See Smith, Figure 3).

**Dependent claims 12-13** are rejected on the same basis as claim 9.

**As per dependent claim 21**, Smith and Kelley disclose the limitations of claim 19 as described above. Smith also discloses that the paginating includes separating the one or more pages of the digital document into multiple virtual pages without splitting lines of text of the document (See Smith, Figures 3 and 4).

**As per dependent claim 22**, Smith and Kelley disclose the limitations of claim 19 as described above. Smith also discloses identifying line of text within the digital document and separating the one or more pages of the digital document into multiple virtual pages between lines of text (See Smith, Figures 3 and 4).

**Dependent claims 23 and 25** are rejected on the same basis as claim 19.

**Dependent claims 45-46** are rejected on the same basis as claim 42.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) as applied to claim 1 above, and further in view of Baum (U.S. Patent 6,188,779 B1).

**As per dependent claim 5**, Smith and Kelley disclose the limitations of claim 1 as described above. Smith and Kelley do not disclose expressly performing at least minimal OCR on content of the document to locate line boundaries. Baum discloses performing OCR on the content of a document to determine boundaries. (See Baum, Column 5, lines 65-67, and Column 6, lines 1-27). Smith, Kelley, and Baum are analogous art because they are from the same problem-solving area of paginating digital documents. At the time of the invention it would have been obvious to a person



of ordinary skill in the art to include the OCR of the content of the document of Baum with the method and program for improving the readability of digital documents of Smith and Kelley. The motivation for doing so would have been to identify regions of the document that are tightly defined about the probable text. (See Baum, Column 5, line 67, and Column 6, lines 1-2) Therefore, it would have been obvious to combine Baum with Smith and Kelley for the benefit of locating gaps between tightly defined regions of text within the document to obtain the invention as specified in claim 5.

10. Claims 33, 35, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Atkinson (U.S. Patent 4,622,545).

**As per independent claim 33**, Smith discloses a method for facilitating enhanced readability of a fixed digital document, including paginating multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses displaying one or more virtual pages of the multiple virtual pages (See Smith, Column 3, lines 15-20). Smith does not disclose expressly displaying one or more virtual pages of the multiple virtual pages with overlap on a virtual page, where the overlap of one virtual page includes content of the document repeated from another virtual page. Kelley discloses displaying one or more virtual pages of the multiple virtual pages with overlap on a virtual page, where the overlap of

one virtual page includes content of the document repeated from another virtual page (See Kelley, Figure 4, and Column 6, lines 60-62).

Smith also does not disclose expressly indicating overlap during the displaying, where the content of overlap is differentiated from other content. Atkinson discloses indicating overlap that is differentiated from other content. (See Atkinson, Figure 7, and Column 10, lines 19-36).

Smith, Kelley, and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the display of multiple virtual pages without overlap of Kelley with the method of facilitating enhanced readability of a fixed digital document of Smith. The motivation for doing so would have been to display only entire lines of text on a virtual page on the screen which makes reading the text much more user friendly (See Kelley, Abstract). Therefore, it would have been obvious to combine Kelley with Smith for the benefit of displaying only entire lines of text on a virtual page on the screen to make reading the text much more user friendly.

It also would have been obvious to a person of ordinary skill in the art to include the indication of overlapping data of Atkinson with the method and program for improving the readability of digital documents of Smith and Kelley. The motivation for doing so would have been to mask the regions of the data that are currently being displayed. (See Atkinson, Column 10, lines 37-40). Therefore, it would have been

obvious to combine Atkinson with Kelley and Warnock for the benefit of identifying lines of data already displayed to obtain the invention as specified in claim 33.

**As per dependent claim 35**, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith also discloses displaying virtual pages of the multiple virtual pages, where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages (See Smith, Column 4, lines 27-31).

**As per dependent claim 39**, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3, lines 13-26).

Dependent claims 40-41 are rejected on the same basis as claim 33.

11. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Warnock (U.S. Patent 5,634,064).

**As per dependent claim 49**, Smith and Kelley disclose the limitations of claim 47 as described above. Smith and Kelley do not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Smith, Kelley, and Warnock are analogous art because they are from the same

problem-solving area of displaying text online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith and Kelley. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith and Kelley for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 49.

12. Claims 26, 28-32, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Warnock (U.S. Patent 5,634,064).

**As per independent claim 26**, Smith discloses a method for facilitating enhanced readability of a digital document, such as a PostScript document, including paginating the multiple pages of the fixed digital document into multiple virtual pages (See Smith, Figure 3, and Column 5, lines 19-32).

Smith also discloses displaying the virtual pages of the multiple virtual pages, where unrepeated content of a multiple virtual page starts at a common spatial position on the multiple virtual pages (See Smith, Column 3, lines 15-20).

Smith does not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24).

Smith and Warnock are analogous art because they are from the same problem-solving area of displaying text online.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 26.

**Claim 52** is rejected on the same basis as claim 26.

**As per dependent claim 28**, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses that paginating includes separating the one or more pages of the digital document into multiple virtual pages without splitting lines of text of the document (See Smith, Figures 3 and 4).

**As per dependent claim 29**, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses identifying line of text within the digital document and separating the one or more pages of the digital document into multiple virtual pages between lines of text (See Smith, Figures 3 and 4).

**As per dependent claim 30**, Smith and Warnock disclose the limitations of claim 26 as described above. Smith also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins (See Smith, Column 3, lines 13-26).

**Dependent claims 31 and 32** are rejected on the same basis as claim 26.

13. Claims 34 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1) in view of Kelley (U.S. Patent 6,694,485 B1) and Atkinson (U.S. Patent 4,622,545) as applied to claim 33 above, and further in view of Warnock (U.S. Patent 5,634,064).

**As per dependent claims 34 and 36**, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley and Atkinson do not disclose expressly lowlighting repeated content on a virtual page. Warnock discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Smith, Kelley, Atkinson, and Warnock are analogous art because they are from the same problem-solving area of displaying text online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock with the method disclosed by Smith, Kelley, and Atkinson. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith, Kelley, and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 34.

**As per dependent claim 37**, Smith, Kelley and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley, and Atkinson do not disclose that the

overlap is shaded. Warnock discloses that the overlap is shaded or highlighted in reverse video. (See Warnock, Column 9, lines 19-24). Smith, Kelley, Warnock and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the shading of Warnock with the method and program for improving the readability of digital documents of Smith, Kelley, and Atkinson. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Smith, Kelley, and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 37.

14. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (U.S. Patent 6,175,845 B1), Kelley (U.S. Patent 6,694,485 B1), and Atkinson (U.S. Patent 4,622,545) as applied to claim 33 above, and further in view of Bereiter (U.S. Patent 5,909,217).

**As per dependent claim 38**, Smith, Kelley, and Atkinson disclose the limitations of claim 33 as described above. Smith, Kelley, and Atkinson do not disclose expressly that the overlap is grayed. Bereiter discloses graying out portions of overlap. (See Bereiter, Figure 3, and Column 4, lines 35-49). Smith, Kelley, Atkinson and Bereiter are analogous art because they are from the same field of endeavor of displaying data

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online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to including the graying out of overlapping data of Bereiter with the method and program for improving the readability of digital documents of Smith, Kelley, and Atkinson. The motivation for doing so would have been to help present the context of the non-grayed data. (See Bereiter, Column 4, lines 43-48). Therefore, it would have been obvious to combine Bereiter with Smith, Kelley, and Atkinson for the benefit of emphasizing the context of the page to obtain the invention as specified in claim 38.

### ***Response to Arguments***

15. Applicant's arguments with respect to claims 1-9, 11-19, 21-26, 28-43, and 45-52 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Swart (U.S. Publication 2002/0103717 A1) discloses systems and methods for ensuring deliverable quality compliance.

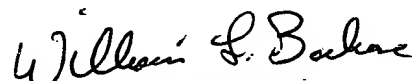


17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurie Ries whose telephone number is (571) 272-4095.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon, can be reached at (571) 272-4136.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LR

  
**WILLIAM BASHORE**  
**PRIMARY EXAMINER**